CLAIMS:

1. A self-sharpening cutting tool having a cutting edge made of a first material or materials, the cutting edge being coated only on one side thereof with a coating substantially harder than the first material or materials, characterised in that the coating has a layered or laminar microstructure aligned substantially parallel to the coated side of the cutting edge.

2. A tool as claimed in claim 1, wherein the coating comprises tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

3. A tool as claimed in claim 1, wherein the coating is a multilayered coating, a topmost layer of the coating comprising tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

4. A tool as claimed in any preceding claim, wherein the coating is a multilayered coating comprising layers of differing hardnesses, at least one of the layers being a hardest layer.

5. A tool as claimed in claim 1, wherein the coating is a multilayered coating comprising layers of differing hardnesses, a hardest layer of which comprises tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

6. A tool as claimed in claim 4 or 5, wherein the hardest layer is a topmost layer of the coating.

7. A tool as claimed in claim 4 or 5, wherein the hardest layer is an intermediate layer of the coating.

8. A tool as claimed in claim 4 or 5, wherein the hardest layer is a base layer of the coating.

9. A tool as claimed in any one of claims 4 to 8, wherein the coating comprises layers of tungsten, tungsten carbides and/or mixtures of tungsten with tungsten carbides alloyed with fluorine in amounts ranging from 0.0005 to 0.5 wt%.

10. A tool as claimed in any one of claims 4 to 8, wherein the coating comprises layers of tungsten and tungsten carbides substantially or entirely free of metallic tungsten, being alloyed with fluorine in amounts ranging from 0.0005 to 0.5 wt%.

11. A tool as claimed in any one of claims 4 to 7 and claim 9 or 10 depending from any one of claims 4 to 7, wherein the coating has a base layer of tungsten.

12. A tool as claimed in claim 3, 4 or 5, wherein the layers are arranged in sequentially increasing order of hardness from the cutting edge to a topmost layer of the coating.

13. A tool as claimed in any preceding claim, wherein the coating or a topmost layer thereof has a friction coefficient against WC/Co of 0.3 or less.

14. A tool as claimed in any preceding claim, wherein the coating is produced by Chemical Vapour Deposition in a vacuum chamber at a pressure lower than atmospheric pressure and at a temperature above 350°C, preferably from 450°C to 550°C.

15. A tool as claimed in any preceding claim, wherein the coating has a total thickness from 1 to 25 microns, preferably 3 to 12 microns.

16. A tool as claimed in any preceding claim, wherein an exposed surface of the coating has a roughness Ra of 0.8 microns or less, preferably 0.5 microns or less.

17. A tool as claimed in any preceding claim, wherein the coating or a topmost layer thereof has a microhardness of at least 2000kG/mm$^2$, preferably at least 2500kG/mm$^2$, and even more preferably at least 2900kG/mm$^2$.

18. A tool as claimed in any preceding claim, wherein an exposed surface of the coating is ground or polished in a direction substantially parallel to the coated surface of the cutting edge.

19. A method of manufacturing a self-sharpening cutting tool, the method comprising the steps of:

i) providing a cutting edge made of a first material or materials;

ii) coating only one side of the cutting edge with a coating substantially harder than the first material or materials;

characterised in that the coating has a layered or laminar microstructure aligned substantially parallel to the coated side of the cutting edge.

20. A method according to claim 19, wherein the coating comprises tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

21. A method according to claim 19, wherein the coating is a multilayered coating, a topmost layer of the coating comprising tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

22. A method according to any one of claims 19 to 21, wherein the coating is a multilayered coating comprising layers of differing hardnesses, at least one of the layers being a hardest layer.

23. A method according to claim 19, wherein the coating is a multilayered coating comprising layers of differing hardnesses, a hardest layer of which comprises tungsten carbide or mixtures of tungsten carbides substantially or entirely free of metallic tungsten.

24. A method according to claim 22 or 23, wherein the hardest layer is a topmost layer of the coating.

25. A method according to claim 22 or 23, wherein the hardest layer is an intermediate layer of the coating.

26. A method according to claim 22 or 23, wherein the hardest layer is a base layer of the coating.

27. A method according to any one of claims 22 to 26, wherein the coating comprises layers of tungsten, tungsten carbides and/or mixtures of tungsten with tungsten carbides alloyed with fluorine in amounts ranging from 0.0005 to 0.5 wt%.

28. A method according to any one of claims 22 to 26, wherein the coating comprises layers of tungsten and tungsten carbides substantially or entirely free of metallic tungsten, being alloyed with fluorine in amounts ranging from 0.0005 to 0.5 wt%.

29. A method according to any one of claims 22 to 25 and claim 27 or 28 depending from any one of claims 22 to 25, wherein the coating has a base layer of tungsten.

30. A method according to claim 21, 22 or 23, wherein the layers are arranged in sequentially increasing order of hardness from the cutting edge to a topmost layer of the coating.

31. A method according to any one of claims 19 to 30, wherein the coating or a topmost layer thereof has a friction coefficient against WC/Co of 0.3 or less.

32. A method according to any one of claims 19 to 31, wherein the coating is applied by Chemical Vapour Deposition in a vacuum chamber at a pressure lower than atmospheric pressure and at a temperature above 350°C, preferably from 450°C to 550°C.

33. A method according to any one of claims 19 to 32, wherein the coating is applied to a total thickness from 1 to 25 microns, preferably 3 to 12 microns.

34. A method according to any one of claims 19 to 33, wherein an exposed surface of the coating after application has a roughness Ra of 0.8 microns or less, preferably 0.5 microns or less.

35. A method according to any one of claims 19 to 34, wherein the coating or a topmost layer thereof has a microhardness of at least 2000kG/mm$^2$, preferably at least 2500kG/mm$^2$, and even more preferably at least 2900kG/mm$^2$.

36. A method according to any one of claims 19 to 35, wherein an exposed surface of the coating, after application of the coating, is ground or polished in a direction substantially parallel to the coated surface of the cutting edge.